


SPECIAL PACKAGING INSTRUCTION (AMCCOM Suppl 1 to AR 700-15)					NATIONAL STOCK NUMBER 6810-01-382-2904		
NOMENCLATURE ALCOHOL, ISOPROPYL				UI BOX	CLEANING/DRYING NA		SPI NUMBER (PN) P5-1-3355
LEVEL A UNIT PACK REQUIREMENTS (A) (MIL-P-116 METHOD N/A)	STEPS	DRAWING OR SPECIFICATION	STYLE	TYPE	GRADE	CLASS	SIZE AND REMARKS (INCHES)
Unit packing	(A) 1						
Inner packaging of combination package	(A)(a) 2						
Outer packaging of combination package	(A)(b) 3						
Performance Oriented Packaging (POP)	(A)(c) 4						
LEVEL B (METHOD) <input checked="" type="checkbox"/> NOT APPLICABLE <input type="checkbox"/> SEE NOTE <input type="checkbox"/> IAW MIL-STD-2073-1 LEVEL C (METHOD) <input checked="" type="checkbox"/> NOT APPLICABLE <input type="checkbox"/> SEE NOTE <input type="checkbox"/> IAW MIL-STD-2073-1 COMMERCIAL PACKAGING <input checked="" type="checkbox"/> NOT APPLICABLE <input type="checkbox"/> SEE NOTE <input type="checkbox"/> IAW ASTM D3951							
UNIT PACK LOGISTICS DATA (Weights and Sizes Approximate)							
LEVEL	UNIT PACK QUANTITY	UNIT PACK WEIGHT	UNIT PACK CUBE	UNIT PACK SIZE (EXTERIOR) FEET			
A	1	2.00 lbs.	.179 cu. ft.	.81 X .47 X .47			
Intermediate packaging and packing will be in accordance with specification MIL-STD-2073-1 or as otherwise specified hereon. (B) - PACKING / (D) - PALLETIZATION							
Marking will be in accordance with MIL-STD-129 (C)							
Specifications, standards, and drawings listed hereon of the issue in effect on date of invitation for bid form a part of this data sheet. The applicable general and referenced requirements of specification MIL-STD-2073-1 form part of this data sheet. Unless otherwise specified, materials will be minimum size IAW MIL-STD-2073-1.							
Tolerances shall be in accordance with material specifications. Quality performance and testing requirements shall be in conformance with MIL-STD-2073-1 or as specified hereon. (E)							
REMARKS/ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.							
<p>NOTE: THE METRIC EQUIVALENTS GIVEN FOR INCH-POUND QUANTITIES ARE NOMINAL VALUES PROVIDED FOR INFORMATIONAL PURPOSES AND SHOULD NOT BE CONSIDERED AS QUANTITY REQUIREMENTS.</p> <p>(A) - Unit packing. Isopropyl alcohol (Isopropanol) covered by this SPI is classified as a class 3, packaging group II, flammable liquid, limited quantity of Annex 1 Part 7 of the International Maritime Dangerous Goods Code (IMO), chapter 7 of the Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO) and parts 100-199 of 49 CFR Transportation. The contractor is responsible of conducting or obtaining compliance testing (Packaging Oriented Packaging (POP) testing) and marking of the outer packaging ((a) below) and combination packaging ((b) below) and furnish the Government with a certificate and test report verifying the successful completion of the POP tests ((c) below).</p>							
Original Preparer: jd stallings/ jun'95				Revised by:			
ITEM DATA (APPROX)	CBDCOM						
ITEM CODE- Z67	SCBRD-ENE-S						
ITEM SIZE - 7 x 3 x 3 3/4 combined dimensions	PAGE NUMBER	NUMBER OF PAGES					
ITEM WEIGHT- .50 lbs.	1	9		S5K1503-0002	Z67-006 A	29 JUN 95	
			APPROVAL	REVISION	DATE		

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(a) **Inner packaging of combination package ((A) above).**

(1) **One-and five-one hundredths fluid ounces (30 milliliters).** A quantity of 1.05 ± 0.03 fluid ounces (30 mL) of isopropyl alcohol shall be packaged in a bottle conforming to an IP.2 container in accordance with Part 3, Chapter 5, Packing instructions 305 of ICAO-TDGA. The bottle shall conform to class 2, group A, style 8, grade 2, closure N, seal A or C of PPP-C-186 except that the shape of the bottle shall be oval or oblong in the capacity of 1.05 fluid ounces, plus the outage specified in the ICAO-TDGA. A polyolefin shrink wrap surrounding the cap and entire bottle may serve as a substitute to seal A. Tape conforming to type I, class optional of PPP-T-66 may also be used as an option to seal A (secondary closure seal). The tape shall be applied not less than 1-1/3 turns around the cap neck closure. The material used to fabricate the bottle shall conform to type I, class L or M, grade 1 or 2 of L-P-390. The bottle shall have a minimum wall thickness of 0.021 inch. The maximum envelope dimensions of the bottle, including bottle, neck, and cap, shall be 3-3/4 by 1-3/4 by 15/16 by inches. There shall be no evidence of container leakage when the bottle is tested as specified in the Quality Provision of this SPI.

(2) **Sixteen-and eight tenths fluid ounces (480 ml).** Sixteen 1.05 fluid ounces (30 mL) of isopropyl alcohol, packaged as specified in (A)(1) above, shall be further packaged in one layer (4 by 4 pattern) in a folding paperboard box conforming to variety 1, style X (modified), weight of contents 1 to 1-1/4 pounds, semi-supported load of PPP-B-566. The box shall have inside dimensions of 7-1/4 by 3-11/16 by 3-13/16 inches. The tuck end of the box shall be modified with a tongue and tuck flap in accordance with the applicable provisions of the box specification. The length of the tuck shall be at the option of the box supplier. The bottles or isopropyl alcohol shall be separated by interlocking partitions fabricated from the same material as the box. The interlocking partitions shall be full length, width and depth of the interior of the box. The box shall be closed in accordance with the provisions for locking closures in accordance with the appendix of PPP-B-566. The box and contents shall then be enclosed in a plastic bag conforming to type I, style 2 of PPP-B-26, having inside dimensions of 8 by 2-1/2 by 12 by 2-1/2 inches (face width, side gusset, length, bottom gusset, respectively) by 0.004 inch thick bag material. Closure of the bag shall be accomplished by twisting the open end of the bag tightly and securing with the wire tie provided. Prior to final sealing, evacuate the excess air from within the bagged assembly with a vacuum system or by hand. The included air volume within the bagged assembly shall be kept to a practical minimum.

(b) **Outer packaging of combination package ((A) above).** A quantity of 16.8 fluid ounces (480 mL) of isopropyl alcohol, packaged as specified in (A)(2) above, shall be enclosed in a fiberboard box conforming to a 4G box of ICAO-TDGA, lined with a plastic bag conforming to type I, style 2 of PPP-B-26. The bag shall have dimensions of 10 by 3 by 18 by 3 inches (face width, side gusset, length, bottom gusset, respectively) by 0.0004 inch thick bag material. The box shall have inside dimensions of 9-5/8 by 5-5/8 by 5-1/2 inches (length, width and depth, respectively). The box shall be oriented so that the bottles are facing in their upward position and centered within the 4G box, and the surrounding space filled with untreated vermiculite. The vermiculite shall conform to A-A-52450. The liner bag shall be closed by twisting the open end of the bag tightly and securing it with the wire tie provided. Prior to final sealing of the liner bag, evacuate the excess air from within the bagged assembly with a vacuum system or by hand. The box shall be closed in accordance with the general packing requirement of the ICAO-TDGA or the top and bottom flaps of the slotted style boxes shall be closed by the application of 2-inch wide tape, conforming to type I, class optional of ASTM D5486. Optionally, adhesive closure method 2A4 of ASTM D1974 may be used for sealing the bottom flaps. The tape shall be centered over the seams formed by the closure of the outer flaps of the top and bottom, except as otherwise specified, and shall extend down over the end panels not less than 2-1/2 inches. When the bottom flaps are closed by stapling or gluing, only taping of the top flaps is required.

(c) - **Performance Oriented Packaging (POP) Tests ((A) above).** Compliance is obtained through successful passage of the container tests stipulated in the regulator documents cited in (A) above.

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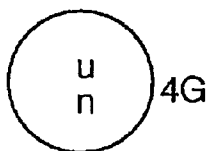
(B) - Packing. Packing shall be level A or B as specified in the contract or order.

(a) **Level A.** A quantity of 16.8 fluid ounces (480 mL) of isopropyl alcohol, unit packed as specified in (A)(1) above, shall be oriented as specified in (A)(b) above, in a close-fitting, nailed-wood box conforming to class 2, style optional, grade A, weight of contents 0 to 50 pounds, type I load of PPP-B-621 or in a close-fitting cleated plywood box conforming to overseas type, style I, grade A, weight of contents 0 to 100 pounds, type I load of PPP-B-601. Filler pads, fabricated of the same material as the 4G container in (A)(b) above, shall be included in the top, sides or ends of the box, as necessary, to make a tight pack. The box shall be closed and strapped in accordance with the appendix to the applicable box specification. The strapping shall not be applied so as to cover, obliterate or interfere with markings in (E) below, on the packing box.

(b) **Level B.** A quantity of 16.8 fluid ounces (480 mL) of isopropyl alcohol, unit packed as specified in (A) above, the 4G container in (A)(b) above, shall serve as the level B shipping container, except the box shall be reinforced with one encircling band of 1/2-inch wide tape conforming to type IV of ASTM D5330. The tape shall be applied, approximately centered, lengthwise encircling the top, bottom, and ends of the box. The tape banding shall not be applied so as to cover, obliterate or interfere with markings in (E) below, on the packing box.

(C) - Marking.

(a) **Standard marking.** In addition to any special markings required by the contract or order and the special markings specified herein, each outer package of the combination package in (A)(2) above, pack and palletized load shall be marked with the standard interior and exterior and contract data markings in accordance with MIL-STD-129. In addition, the following container certification marking shall be applied to each 4G container specified in (A)(b) above; and shall be preprinted on one of the outer top and bottom flaps of the box.



(b) **Special marking.** In addition to the marking requirements of (a) above, the following special markings shall be applied.

(1) **Inner containers of the combination package [(A)(1)].** Each bottle in (A)((1) above, and paperboard box in (A)(2) above, shall be marked with the following information and shall be accomplished by using preprinted labels or printed directly on the bottles or box. The markings shall be located, approximately centered, horizontally and vertically, on each side of the bottle and box, and in a size commensurate with the available marking area. Marking shall be in accordance with the applicable marking provisions of MIL-STD-129.

- One side: ISOPROPYL ALCOHOL
REAGENT GRADE
(DO NOT REFILL)
- Opposite side: WARNING
CONTAINS ISOPROPYL
ALCOHOL (2-PROPANOL)
CONTENTS ARE EXTREMELY
FLAMMABLE. DO NOT OPEN

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NEAR OPEN FLAME OR
SOURCE OF IGNITION.
HARMFUL IF SWALLOWED OR
INHALED. CAUSES IRRITATION.

(2) **Outer container of the combination package [(A)(b)], packs [(D)] and applicable pallet loads [(F)].** Each outer package of the combination package, pack and applicable pallet load shall be marked as follows in accordance with the provisions of MIL-STD-129 and ICAO-TDGA, as applicable, or as otherwise specified.

- FLAMMABLE LIQUID label (air shipments only)
- FLASH POINT marking
- Shelf life markings
- Proper shipping name and UN number
- Package Orientation label or marking
- The words "AIR ELIGIBLE" shall be marked on the side containing the identification markings.

(c) **Military air shipments.** In addition to the standard and special marking requirements of (a) and (b) above, each level A pack prepared for Military air shipment, (c) above, shall be marked with DD Form 1387-2 in accordance with MIL-STD-129.

(D) - **Palletization.** When specified in the contract or order, packs shall be palletized in accordance with the applicable requirements of MIL-STD-147.

(E) - The preproduction (first article) and quality conformance inspection and testing requirements for the level A unit packing and level A and B packing shall be in accordance with the quality inspection and testing section of this SPI (pages 4 through 9).

PART I — QUALITY PROVISIONS

1. **Responsibility for inspection.** Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements (examinations and tests) as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth herein where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.
2. **Responsibility for compliance.** All items shall meet all requirements of the Special Packaging Instruction (SPI) and applicable specifications. The inspection set forth in this SPI (quality provisions) shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements of the quality provisions specified herein shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for accep-

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tance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

3. **Contractor assurance of compliance.** The contractor's quality program or detailed inspection plan shall provide assurance of compliance of all characteristics with this Special packaging instruction and the applicable military and federal specification and standards requirements using, as a minimum, the conformance criteria specified herein.
4. **Alternative inspection provisions.** Alternative inspection procedures, methods, or equipment, such as statistical process control, tool control, and other types of sampling procedures may be used by the contractor when they provide, as a minimum, the level of quality assurance required by the inspection provisions specified herein. Prior to applying such alternative procedures, methods, or equipment, the contractor shall describe them in a written proposal submitted to the Government for evaluation and approval. When required, the contractor shall demonstrate that the effectiveness of each proposed alternative is equal to or better than the quality assurance provisions specified herein. In cases of dispute as to whether the contractor's proposed alternative provides equal quality assurance, the provisions of this SPI (quality provisions) shall apply. All approved alternative inspection provisions shall be specifically incorporated into the contractor's quality program plan or detailed inspection system, as applicable.
5. **Classification of inspection.**
6. **First article inspection.**
 - a. **Sample.** The first first article sample shall consist of five boxes of alcohol manufactured and packaged using the same methods, materials, equipment, and processes as will be used during the regular production. The first article sample shall be submitted for inspection and approval in accordance with the terms of contract.
 - b. **Inspection.** Each box of alcohol shall be tested for leakage in accordance with table I. Each box of alcohol in the first article sample shall be assigned a number 1 through 5, which shall be maintained throughout the tests. Each box shall have a different number, but no distinction shall be made between the individual bottles in each box.
 - c. **Acceptance criteria.** If any first article sample item fails to comply with any of the applicable requirements, the first article sample shall be rejected. The Government reserves the right to terminate inspection upon any failure to comply with any of the requirements. The contractor shall obtain written approval from the contracting activity prior to proceeding with regular production.
7. **Quality conformance inspection.**
 - a. **Lotting.** A lot shall consist of the items produced by one manufacturer, at one plant, from the same materials, under essentially the same manufacturing conditions, and at essentially the same time.

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b. **Sampling.** Samples shall be selected at random. Sampling shall be conducted in accordance with Part II, using the inspection levels specified in table I. The sample unit shall be one packaging container unless otherwise noted in part II. Special sampling, inspection, and acceptance criteria shall be as specified in Part II.

c. **Inspection characteristics.** Critical characteristics are characteristics whose nonconformance to specified requirements is likely to result in hazardous or unsafe conditions for individuals using, maintaining, or depending upon the product or whose nonconformance to specified requirements is likely to prevent performance of the tactical function of a major end item. Major characteristics are characteristics whose nonconformance to specified requirements is likely to result in failure or to reduce materially the usability of the item for its intended purpose. Minor characteristics are characteristics whose nonconformance to specified requirements is not likely to reduce materially the operation or usability of the item for its intended purpose.

d. **Inspection.** Inspection shall consist of examination and test of all the characteristics contained in Part II and Part III of this Quality Provision.

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TABLE I. Sampling

Lot size	Inspection levels and sample sizes										
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
2 to 8	*	*	*	*	*	*	*	*	5	3	2
9 to 15	*	*	*	*	*	*	13	8	5	3	2
16 to 25	*	*	*	*	*	20	13	8	5	3	3
26 to 50	*	*	*	*	32	20	13	8	5	5	5
51 to 90	*	*	*	50	32	20	13	8	7	6	5
91 to 150	*	*	125	50	32	20	13	12	11	7	6
151 to 280	*	*	125	50	32	20	20	19	13	10	7
281 to 500	*	315	125	50	48	47	29	21	16	11	9
501 to 1200	*	315	125	75	73	47	34	27	19	15	11
1201 to 3200	1250	315	125	116	73	53	42	35	23	18	13
3201 to 10000	1250	315	192	116	86	68	50	38	29	22	15
10001 to 35000	1250	315	294	135	108	77	60	46	35	29	15
35001 to 150000	1250	490	294	170	123	96	74	56	40	29	15
150001 to 500000	1250	715	345	200	156	119	90	64	40	29	15
500001 and over	1250	715	435	244	189	143	102	64	40	29	15

*Indicates one hundred percent inspection. If sample size exceeds lot size, perform one hundred percent inspection.
Accept the lot represented on zero nonconforming characteristics and reject the lot represented on one or more nonconforming characteristics for all inspection levels.

8. Inspection equipment coding.

- AD - Army designed special acceptance inspection equipment
- CD - Contractor designed special acceptance inspection equipment
- CE - Commercial inspection equipment
- VI - Visual inspection

9. Inspection requirements for packaging. Any inspection requirements for packaging are applicable only when military packaging is required by the contract.

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P5-1-3355**PART II — INSPECTION REQUIREMENTS****CLASSIFICATION OF PACKAGING CHARACTERISTICS**

<u>Category</u>	<u>Characteristic</u>	<u>Sampling and acceptance criteria</u>	<u>Inspection method</u>
<u>Critical</u>	None defined		
<u>Major</u>			
101	Inner container of the combination package (bottle) clean and dry prior to packaging	Table I, level IX	VI and CE
102	Contents per inner container (bottle) correct	Table I, level IX	VI and CE
103	Inner container (bottle) and closure correct	Table I, level IX	VI and CE
104	Inner container (paperboard box), paperboard interlocking partitions and closure correct	Table I, level IX	VI and CE
105	Container leakage	Part II, 201	Part IV, 401
106	Outer container (4G) and closure correct	Table I, level IX	VI and CE
107	Packing container and closure correct	Table I, level IX	VI and CE
108	Marking correct	Table I, level IX	VI and CE
109	Palletization (when required) correct	Table I, level IX	VI and CE

SPECIAL SAMPLING, INSPECTION, AND ACCEPTANCE CRITERIA

201 Container leakage. Each box of alcohol shall be tested for leakage in accordance with Part IV, 401. Each box of alcohol in the first article sample shall be assigned a number 1 through 5, which shall be maintained throughout the tests. Each box shall have a different number, but no distinction shall be made between the individual bottles in each box. Failure of any sample to meet the leakage requirement shall be cause for rejection of the lot from which the sample was drawn.

PART III — CERTIFICATION REQUIREMENTS

Certification shall be required for each characteristic specified below and shall include actual examination and test results when required herein. Results of examinations and tests shall be on file at the contractor's facility and shall be available to the Government for review.

<u>Number</u>	<u>Characteristic</u>	<u>To comply with</u>
301	Packaging material	Applicable specification or standard specified in this SPI.

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PART IV -- TEST METHODS AND PROCEDURES

401 Container leakage. Place the filled container (bottle) in each of the following positions and leave in that position for a period of not less than 5 minutes.

- (a) Upright
- (b) Upside down
- (c) On one side (or one quadrant)
- (d) On one end (second quadrant)
- (e) On opposite side (or fourth quadrant)

Examine the bottle after each period for any evidence of leakage.

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